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the network being electrically connected to an electrically conducting interface component for electric communication with an external electric component or circuitry.

3. (Twice Amended) A network according to Claim 1, comprising at least two nucleotide fibers connected to one another at a junction in which one nucleotide segment of one fiber is bound to another nucleotide segment of another fiber by a sequence-specific interaction.

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4. (Twice Amended) A network according to Claim 1, comprising a junction between a first nucleotide fiber and a second nucleotide fiber, formed by a molecule, cluster of atoms or molecules or a particle bound to each of the nucleotide fibers.

7. (Amended) A network according to Claim 6, wherein the chemically modified nucleotides are included in the network:

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(i) in junction between nucleotide fibers for binding the nucleotide fibers to one another,

(ii) in junction between a nucleotide fiber and a linker that binds a nucleotide fiber to an electronic component of the network, or

(iii) in junction between a nucleotide fiber or an electronic component and an interface component.

10. (Twice Amended) A network according to Claim 1, having

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(a) at least one conductor being a wire constructed on a nucleotide fiber comprising at least one nucleic acid chain;

(b) at least one electronic component being electrically connected to said at least one wire and being constructed either on a nucleic acid chain which has been chemically or physically modified by depositing one or more molecules, cluster of atoms or molecules or particles thereon, or being constructed by a molecule, cluster of atoms or

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molecules or a particle situated at a junction between two or more nucleic acid chains of different fibers.

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11. (Twice Amended) A network according to Claim 1, comprising two or more nucleotide fibers assembled to form the network on the basis of sequence-specific interaction of nucleic acid chains.

13. (Twice Amended) A network according to Claim 1, wherein at least one

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nucleotide fiber is made electrically conductive by substances comprising a metal bound to the nucleotide fiber or portion thereof.

14. (Twice Amended) A network according to Claim 1, wherein the network comprises at least one wire formed by non-metallic conducting substance bound to a nucleotide fiber or portion thereof.

15. (Twice Amended) A network according to Claim 1, wherein at least one nucleotide fiber has at least a portion bound to semi-conducting substances.

17. (Twice Amended) A network according to Claim 1, wherein one of two

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adjacent portions of at least one nucleotide fiber are bound to a p-type semi-conducting substance and the other to an n-type semi-conducting substance, whereby the two adjacent portions of the nucleotide fiber constitute a p/n junction.

19. (Twice Amended) A network according to Claim 1, comprising at least one nucleotide-based junction formed by hybridization of complementary sequences of nucleotide chains in at least two nucleotide fibers.

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20. (Amended) A network according to Claim 19, wherein said junction is formed into bipolar transistors, comprising:

(a) a p-type semi-conducting substance bound to a first nucleotide fiber at the junction and an n-type semi-conducting substance bound to adjacent, second nucleotide fiber at both sides of the first nucleotide fiber, or

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(b) an n-type semi-conducting substance bound to a first nucleotide fiber at the junction and a p-type semi-conducting substance bound to adjacent, second nucleotide fiber at both sides of the first nucleotide fiber.

22. (Amended) A network according to Claim 21, comprising at least two interface components, each one connected to at least one nucleotide fiber or electronic component of the network.

23. (Twice Amended) A network according to Claim 21, wherein said interface component is connected to a wire, said wire comprising a nucleotide fiber.

24. (Amended) A network according to Claim 23, wherein the nucleotide fiber has a nucleotide end segment, and is bound to the interface component by a specific interaction with a complexing agent bound to a linker attached to the interface component.

26. (Twice Amended) A network according to Claim 21, wherein said interface component is bound to a nucleotide fiber that is bound to an electronic component of the network.

28. (Amended) A method for making an electronic network, comprising:

(a) providing an arrangement comprising at least one electrically conductive interface component;

(b) attaching a linker to the at least one interface component;

(c) contacting said arrangement with at least one nucleotide fiber with a sequence capable of binding to the linker, and permitting binding of said sequences to said linker,

(d) electrically or electronically functionalizing the at least one nucleotide fiber by depositing thereon or complexing thereto at least one substance or particles.

29. (Amended) A method according to Claim 28, wherein the network is formed by self-assembly as a result of chemical complementary and molecular recognition properties